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CHAPTER 12

RIGHT-OF-WAY AND UTILITIES

12.1 GENERAL

This chapter provides policies, procedures and methods for developing and documenting the right-of-way and utilities of highways. The land that a highway occupies is the right-of-way. It consists of the land owned by the operating agency or land that the operating agency has a right to use for roadway purposes. This chapter deals with determining right-of-way needs, acquisition of right-of-way, moving or accommodating utilities, right-of-way and utility plans, and agreements with railroads.

Statements of FHWA or FLH *Policy* are shown in **bold type**. Statements regarding FLH *Standard Practice* are so indicated. Information on how to perform basic procedures and fundamental steps for performing the work are typically incorporated by references to other documents.

Federal Lands Highway Division offices work with many different roadway owners and operating agencies, therefore only general guidelines are provided. It is not practical to prescribe detailed procedures and methods applicable to all situations relating to right-of-way, utilities and railroads.

12.2 GUIDANCE AND REFERENCES

The references in the sections below apply to this Chapter.

12.2.1 FEDERAL AID POLICY GUIDE

Refer to the applicable guidance in the Federal-Aid Policy Guide ([FAPG](#)).

12.2.2 FEDERAL LAW AND REGULATIONS

The following Federal laws and regulations are applicable:

1. Title 42 USC Section 4601 – Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 ([The Uniform Act](#)).
2. 49 CFR Part 24 - Regulations Implementing the Uniform Act.
3. Title 23 USC Section 317 – Highways on Federal Lands.
4. 23 CFR Parts 635 and 710 - Regulations for Right-Of-Way & Real Estate.

12.2.3 RIGHT-OF-WAY PROJECT DEVELOPMENT GUIDE

Refer to the FHWA [Right-of-Way Project Development Guide](#).

12.2.4 FHWA DIVISION RIGHT-OF-WAY OPERATIONS MANUAL

Refer to the FHWA [Division Right-of-Way Operations Manual](#).

12.2.5 STATE DOT RIGHT-OF-WAY OPERATIONS MANUALS

As applicable, refer to the State DOT Right-of-Way Operations Manual for the State the project is located within.

12.2.6 STATE REQUIREMENTS

12.2.6.1 Statutory Requirements

Identify the statutory requirements applicable to the project.

12.2.6.2 DOT Requirements

Identify the State DOT requirements applicable to the project.

12.2.7 MEMORANDUMS OF AGREEMENT

Refer to the Memorandums of Agreements that have been executed between FLH with each Federal Land Management Agency. These are described in [Chapter 2](#).

12.2.8 FOREST HIGHWAYS

For Forest Highway projects, refer to the Forest Highway Agreement applicable to the project.

12.2.9 PROJECT AGREEMENTS

Refer to the project agreement that has been prepared for the project for specific requirements, planned activities, budgets, schedules and roles and responsibilities.

12.2.10 OTHER GUIDANCE AND REFERENCES

12.2.10.1 AASHTO

Refer to the following AASHTO documents:

- Guide for Accommodating Utilities Within Highway Right-of-Way, AASHTO, 1994.
- A Policy on the Accommodation of Utilities Within Freeway Right-of-Way, AASHTO, 1989.

12.2.10.2 ASTM

List ASTM references

12.2.10.3 ALTA

List ALTA references

12.3 PRIVATE PROPERTY

12.3.1 RESEARCH

Reserved

12.3.2 APPRAISAL

Acquiring agencies are obligated by the Uniform Act to estimate “just compensation” based on real estate appraisals. Real estate appraisers refer to their work as estimating “fair market value.” Although there is debate whether the two are the same, assume that fair market value is generally the measure of just compensation.

An appraisal is an independently written statement and impartially prepared by a qualified appraiser setting forth an opinion of defined value of an adequately described property as of a specific date, supported by the presentation and analysis of relevant market information.

Appraisals must have a formal written review by a reviewing appraiser who is qualified to evaluate the appraisal.

Refer the FHWA's [Appraisal Guide](#) for guidance.

12.3.3 ACQUISITION

As soon as possible during the project development phase, the property owner shall be notified of the acquiring agency's interest in acquiring the real property. The property owner's basic entitlements, including the agency's obligation to secure an appraisal must be explained. Prior to any discussion of value with the property owner, the acquiring agency must provide the property owner with a summary of the basis for the amount the acquiring agency has established as just compensation for the proposed acquisition. This also must be provided to the tenant of any buildings, structures or other improvements affected by the acquisition.

The Uniform Act provides that no person lawfully occupying real property shall be required to move from a dwelling or to move a business or farm operation without at least a 90-day written notice.

The Uniform Act requires that the acquiring agency make a prompt written offer to the property owner that is based on the agency's current estimate of just compensation, including the amount and a summary of the basis for the offer.

Refer to the FHWA Publication [Acquiring Real Property for Federal and Federal-aid Programs and Projects](#).

12.3.4 AIRSPACE GUIDELINES

Reserved

12.3.5 RIGHT-OF-WAY CERTIFICATION

Any agency receiving Federal funding for a program or project must assure or certify to the Federal agency providing funds that in acquiring real property it agrees to comply with the land acquisition policies in the regulations governing real property acquisitions (49 [CFR](#) PART 24) to the greatest extent practical under State law.

12.3.6 ENVIRONMENTAL CONSIDERATIONS

Right-of-Way appraisal and acquisition cannot begin until after completion of the environmental document and approval of NEPA clearance, except under certain hardship conditions. Coordinate the right-of-way and utility activities with the environmental processes as described in [Chapter 3](#).

Property acquired for right-of-way must be free of any hazardous material or contamination. Liability for any subsequent clean-up or remediation will be at the expense of the right-of-way interest holder.

Property acquired for wetland mitigation purposes *To Be Provided*.

12.3.7 CONTEXT SENSITIVE SOLUTIONS (CSS)

CSS is an approach to project delivery that involves stakeholders and the public, and assures that decisions result in projects that are designed and constructed in ways that are sensitive to values of the environment and local community. CSS employs a collaborative, interdisciplinary approach in which the needs of the users and non-users are addressed simultaneously by the decision-making team. The CSS approach will sometimes utilize nontraditional solutions involving real estate.

12.3.8 RIGHT-OF-WAY COMPLAINTS

Reserved

12.4 FEDERAL LAND

12.4.1 FEDERAL LAND TRANSFERS

Reserved

12.4.1.1 Application to the Federal Agency

Reserved

12.4.1.2 Stipulations

Reserved

12.4.1.3 Authorizations and Limitations

Reserved

12.4.1.4 Memoranda of Understanding

Reserved

12.4.2 SPECIAL USE PERMITS

Reserved

12.5 TRIBAL GOVERNMENT RIGHT-OF-WAY ISSUES

Because of the cultural, archeological and historical significance that Native Americans place on their ancestral lands, the acquisition of rights-of-way calls for the utmost in sensitivity and consideration.

There are about 280 land areas currently administered as Federal Indian Reservations in 33 States. Reservation lands are those held in trust by the Federal Government for the common benefit of the Tribe. Allotted lands are reservation “trust” lands conveyed by the Government to individual Native Americans. 25 [CFR](#) Part 169 discusses the acquisition of rights of way over Indian lands.

12.5.1 INDIAN RESERVATION ROAD PROGRAM

Refer to [Chapter 2](#) for information on the Indian Reservation Road program.

12.5.2 BIA RIGHT OF WAY PROCEDURES

Reserved

12.5.3 TRIBAL PROTOCOL

Reserved

12.6 UTILITIES

[FAPG CFR 645A](#) and [FAPG CFR 645B](#) provide policy and guidelines on adjustments to utilities. The highway operating agencies have various degrees of authority to designate and to control the use of right-of-way acquired for public highway purposes. Their authorities depend upon State laws or regulations. Utilities also have various degrees of authority to install their lines and facilities on the right-of-way.

The general policy is that utilities can occupy the right-of-way if they do not conflict with the integrity, operational safety or functional and aesthetic quality of the highway facility.

The term utility means all privately, publicly or cooperatively owned lines, facilities and systems for producing, transmitting or distributing communications, power, heat, petroleum products, water, steam, waste and storm water not connected with highway drainage. Other services that directly or indirectly serve the public and are also considered utilities include cable television, fire and police signal systems and street lighting systems. It also means the utility company is inclusive of any wholly owned or controlled subsidiary.

When irrigation districts or companies perform work at Federal expense, treat them as utilities.

12.6.1 ACCOMMODATION OF UTILITIES

It is not mandatory to provide right-of-way for new utilities. However, existing rights must be recognized. Impacts to utility facilities or interests may be compensable under the Uniform Act.

It is FLH *Standard Practice* to accommodate existing facilities when they do not conflict with the primary function of the roadway. Construction often causes the relocation of utilities located with the existing right-of-way. It is a requirement that the new right-of-way must provide areas for their relocation.

Poles or other surface utility relocations should be beyond the clear zone area or behind guardrail. Place underground utilities in the road shoulder, beneath the ditch or preferably between the construction limits and the right-of-way line. Pole lines usually require a minimum of 5 m (16 ft) of width to accommodate the cross arm and anchor systems and to provide for control of vegetation under the wires. Assure adequate clearance between the lowest aerial line and the paved roadway.

12.6.2 UTILITY COORDINATION

Contact the utility company shortly after the preliminary design work begins. Outline the proposed construction project, its length, termini and other pertinent information that could affect the utility company (e.g., a tentative construction schedule). In some cases, a small scale map may be helpful for describing project limits.

Request the utility companies to provide plat maps of the project area showing the location of all existing facilities above and below the ground level. The letter of request should also state that the utility company will receive construction plans later, showing existing utility facilities.

Identify the following types of utility conflicts during the preliminary or final design:

- Those utilities that are in the way of actual road construction. These could be poles or buried facilities within the construction limits or buried lines exposed or damaged by construction operations.
- All hazardous utility objects above groundline within the desirable clear zone. Those objects within the clear zone but located in back of nontraversable cut slopes, behind guardrail or impact attenuators or having breakaway features may not require relocation.
- Any utility installation not conforming to the aesthetic quality desired in the appearance of the highway and its environment.

12.6.3 UTILITY AGREEMENTS AND RESPONSIBILITY FOR UTILITY RELOCATION

After the preliminary design is established, identify the utilities that may require relocation or adjustment.

The utility agreements indicate responsibility for the utility adjustments. This could be Government, utility or a combination. When determining the responsibility for utility adjustments, identify each utility conflict on the preliminary plans. Color coding and/or symbols can be helpful in making proper identifications. A tabulation sheet showing conflicts by utility companies is recommended.

Refer to the utility agreements to determine financial responsibility. If no utility agreement exists, use the following general guidance:

- When the utility occupies the existing highway right-of-way, applicable State law determines the portion of the utility relocation cost that is the responsibility of the Government.
- When the utility occupies Government land (e.g., land administered by the Forest Service, National Parks, Bureau of Land Management), all relocation cost is usually borne by the utility. This requires checking with the land management agency. There are cases when the utility has occupancy rights that require the Government to share in the cost of adjustment.
- When the utility facility is owned as part of the Federal property infrastructure, as in National Park areas, cost for relocation will be part of the project.
- Determine responsibility for design, ownership and future liability of the facility.

After establishing financial responsibility, show on preliminary utility plans the method used to make the required utility adjustment. One way to accomplish this is to identify and show on the plans at each location where conflict exists, the following information:

- who is to move the facility (i.e., utility company, FHWA, State);
- existing and proposed locations (i.e., stationing, left or right of centerline); and

- who will pay for the relocation (i.e., utility company, FHWA, State).

A system of symbols can show the same information. In addition, some method of noting joint use of utilities (i.e., power and telephone lines on the same poles) is desirable for use on the plans.

There will also be cases where the utility move will be a combination of utility and Government expense. This covers instances where the utility is on existing right-of-way and would only need to move a short distance for construction purposes. However, FHWA wants them to move a greater distance for other purposes (e.g., aesthetics, clear zone requirements). In all cases, the utility owner has to be “made whole” or compensated for impacts to the facility.

The plans developed for construction or right-of-way may be adequate for utility plans. The essential information needed on utility plans includes the following:

- centerline;
- construction limits;
- existing and proposed right-of-way;
- edge of existing road;
- all utility installations;
- easement, permit and utility ownership data;
- depths of underground facilities and elevations of all crossing wires less than 13 m (43 ft) in height from the proposed grade line;
- proposed utility construction necessitated by the highway improvement project; and
- cross section diagrams.

Send a letter and plans to the utility companies inviting them to a field inspection. Provide the utility companies with a copy of [FAPG CFR 645A](#) and [FAPG CFR 645B](#) along with the preliminary plans, if applicable. This is particularly applicable if the utility is a local entity and not familiar with their rights and obligations under FHWA policy and procedure. As applicable, include a statement that the company’s preliminary engineering costs for plan preparation and estimating costs of the utilities to be removed, adjusted or relocated at FHWA expense are eligible for reimbursement after date of the letter.

At the field review with the utility company’s representative, discuss the following areas of mutual interest and resolve any conflicts to the extent possible. The following provides some examples of possible conflicts:

- Are all the utilities requiring adjustment shown on the plans?
- Has the financial responsibility for the utility adjustment been mutually determined?

- Will the utility build the new relocated facility before cutting the existing one or can service be discontinued until the existing facility is moved to its new location?
- How long will it take to move the utility?
- Will temporary service or facilities be required?
- Are there periods of mandatory service that cannot allow service interruption?
- What advance notice does the utility require before it performs the work? The ideal situation is to have all utility adjustments completed in advance of roadway construction.
- Do requirements for temporary traffic control plans conform to the applicable standards in the [MUTCD](#)?
- Is there evidence of the utility company's right-of-occupancy? Utility must provide documentation of their rights for any claim for compensation.
- Have potential service outages been coordinated with emergency services?

Document oral agreements made at the field review. The report should note the name and organization of those in attendance, the names of contacts during development of the utility plan and any problems pertaining to facility relocations. The utility should receive a copy of the plan and any problems pertaining to facility relocations. The utility should receive a copy of the report.

Invite the highway agency responsible for permitting the utility to use a portion of the right-of-way to all field reviews and keep them informed of all developments. When the utility is on Government land, involve the administering agency in the utility relocation.

Following the field review, work with the utility's representative to determine the adequacy, practicality and economic reasonableness of the portion of the relocation eligible for reimbursement by FHWA. This involves checking the utilities' relocation plans and reviewing their work estimate for accuracy and cost effectiveness.

The evidence of the right-of-occupancy submitted by the utility requires a check to determine its validity. The evidence may be a letter giving the numbers and/or identifying the use permit or a statement that the utilities are on private right-of-way or easements. If there is any question, check the permits through the applicable agency. The utility right-of-way easement over private property can be checked through the county records of deeds or assessments.

On approval of the utility relocation plan, show the information on plan sheets and provide copies for the utility agreement, if applicable.

The Government requires a utility agreement when any portion of the relocation costs is eligible for reimbursement. When the relocation costs are borne by the utility, the right-of-way staff will furnish plans, coordinate activities and review the utility's proposal for compatibility with construction and safety requirements.

A utility agreement should consist of the following:

- Utility Project Agreement Form,
- cost estimate,
- statement of work,
- plan sheets, and
- specifications.

When the rough draft of the agreement is complete, obtain the contract number from the Planning and Coordination Unit and request that they obligate the required funds. When notified that funding is clear, complete the preliminary agreement including cost estimate and plans.

Send a copy of the utility package (include occupancy permits, when applicable) to the cooperating agency with responsibility for its use. The responsible agency is usually the State highway organization of the county. When the relocated utilities fall within the Forest Service boundaries, send a copy to the Forest Supervisor's Office for review. The FHWA Division Office may want the opportunity to review the package to ensure that the proposal does not conflict with policy agreed to with the State.

When all the review comments are resolved, complete the final agreement package. The original and two copies of the final agreement will require signatures before they can be forwarded to the utility. The utility should return two signed copies. Distribute the signed copies and all necessary confirmed copies in accordance with office procedures.

Prepare a utilities packet for the construction project engineer consisting of the following:

- a copy of the agreement with exhibits;
- copies of letters of memoranda dealing with the utilities;
- copies of reports of field trips or meetings; and
- discussions of procedures or actions needed (e.g., traffic control, disruption of service, coordination of contractor and utility company operations, safety).

Provide the utilities packet to the appropriate construction staff for forwarding to the project engineer. The Construction Unit is responsible for verifying the utilities work. When the utility performs the work before the award of the contract, the Right-of-Way Unit is responsible. *To Be Revised.*

After completion of the utility relocation and Government verification of the work, make final payment to the utility company and record the work.

12.6.4 LOCATION OF UTILITIES

Locate facilities to minimize the need for utility adjustment on future highway improvements. Avoid interference with highway maintenance and permit access to the facilities for their maintenance with minimum interference to highway traffic. Follow roadside safety and clear zone requirements when making utility adjustments; refer to [Chapter 8](#) for this guidance.

Locate facilities on uniform alignment as near as practical to the right-of-way line. On frontage roads, locate the facilities so that servicing may be performed from the frontage road.

For facilities crossing the highway, locate them at approximately right angles to the highway alignment whenever possible and, preferably, under the highway.

12.6.5 RETENTION OF EXISTING FACILITIES

Under certain conditions, AASHTO policy permits existing facilities encountered during highway construction to remain in place. Facilities deviating from this policy may remain on the highway right-of-way when it is in the public interest and will not adversely affect the highway or its users. This type of retention will be with the understanding that compliance is mandatory when the facility is reconstructed.

When crash history or safety studies show that existing facilities are hazardous, relocate or shield them regardless of prior agreements with the utility. Changes in operating conditions of existing facilities, other than for routine maintenance, require a new permit from the highway operating agency before initiating any work or change.

12.6.6 AESTHETIC CONTROLS

If practical, place cluttered overhead facilities underground. The design of facilities should minimize any adverse visual impact and should be planned to preserve attractive landscapes.

New utility installations, including those needed for highway purposes, are not permitted on highway right-of-way or other lands acquired by or improved with Federal funds within or adjacent to areas of scenic enhancement and natural beauty. These types of areas include public parks and recreational lands, wildlife and waterfowl refuges, historic sites as described in 23 [USC](#) 138, scenic strips, overlooks, rest areas and landscaped areas.

New underground utility installations must not cause the extensive removal or alternation of trees visible to the highway user or impair the visual quality of the area.

Avoid new aerial installations unless there is no feasible and prudent alternative to the use of these lands and only if the following can be established:

- Other utility locations are not available, are unusually difficult, are unreasonably costly or are less desirable from the standpoint of visual quality.
- Underground installations are not technically or economically prudent or are more detrimental to the visual quality of the area.
- The location and installation of the proposed facility will not significantly detract from the visual qualities of the area being traversed. The facility will employ suitable designs and materials to enhance aesthetic values.

No service connections are permitted to cross freeways when a distribution line is available within a reasonable distance on the same side of the highway as the premises being served. Keep crossings of other highways and streets to a minimum.

Facilities to be located on or across highways having easements (e.g., Forest Service land, Bureau of Land Management land, railroad land) require the approval to those agencies.

12.6.7 UTILITY INSTALLATIONS ON HIGHWAY STRUCTURES

Avoid utility attachments to bridge structures whenever possible due to a potentially negative effect on safe traffic operation, efficiency of maintenance and appearance. In those cases where alternate locations are not practical, the method of attachment should meet the following requirements.

- Make sure the bridge design is adequate to support the additional load and accommodate the utility without compromise to highway features, including maintenance.
- Do not allow manholes in the deck.
- Locate the utility beneath the deck between outer girders or beams or within a cell in a position that provides adequate vertical clearance. Avoid any attachments to the outside of bridges.
- Attachments made by support rollers, saddles or hangers are acceptable when padded or coated to muffle vibration noise. Make attachments below the deck but do not allow bolting through the bridge floor. The design of the attachment device requires review and approval before installation by the Bridge Unit.
- Pipes and conduits carried through abutments should be sleeved and tightly sealed with mastic. Upon leaving the bridge, align the utility to the outside of the roadway in as short a distance as practical.
- Provide for linear expansion and contraction due to temperature variation by use of line bends or expansion couplings.
- Provide for shut-off valves, either manual or automatic, at or near ends of structures to provide a means of control in case of emergency.
- Provide suitable protection to prevent corrosion.
- When a pipeline is cased, vent the casing at each end to prevent possible buildup of pressure and to detect leakage of gases and fluids.
- When a pipeline attachment to a bridge is not cased, additional protective measures should be taken. These measures include using a higher factor of safety in the design and construction and testing of the pipeline than would normally apply for cased construction.

- Communication and electric power line attachments should be suitably insulated, grounded and, preferably, carried in protective conduit or pipe from the point of exit from the ground to the point of reentry. Carrier pipe and casing pipe should be suitably insulated from electric power line attachments.

12.6.8 OVERHEAD POWER AND COMMUNICATION LINES

In rural areas or on urban highway sections having the same design standards and other characteristics of rural highway, above ground facilities must be located outside the clear zone. When circumstances warrant a lesser distance, facilities installed closer than other roadside appurtenances are not acceptable. It is ideal to locate all fixtures as near as possible to the right-of-way line.

A variance to maintain a reasonably uniform pole alignment is allowable when irregularly shaped portions of the right-of-way extend beyond the normal right-of-way limits. Excepted from these controls are poles or other ground-mounted appurtenances required for highway lighting. However, where possible, poles and appurtenances must be serviced by underground cable and designed to include a breakaway pole.

When right-of-way is not sufficient to allow installation beyond the clear zone, place the facilities to minimize the hazard to an out-of-control vehicle (e.g., behind the guardrail).

On urban sections with posted speed limits of 60 km/h (35 mph) or less, it may not be practical to locate poles and ground-mounted appurtenances beyond the curb or to protect them with guardrail. However, locate the facilities as far as practical behind the curb or outside the shoulder and/or parking area if there is no curb.

Minimum vertical clearance for conductors must meet the requirements of the National Electrical Safety Code or applicable local codes. When codes conflict, use the code requiring the greater clearance.

12.6.9 UNDERGROUND ELECTRIC POWER AND COMMUNICATION LINES

12.6.9.1 Subsurface Utility Engineering

Longitudinal installations located within the foreslope limits are acceptable. This is true only if an installation outside the ditch line would be extremely difficult or costly; or if the highway traverses a scenic area where an aerial installation would detract from the view; or if placing buried cable beyond the ditch line would require removal of trees and shrubs.

Locate installations placed within the foreslope limits a uniform distance from the pavement edge and as near as practical to the inside edge of the ditch. Do not place buried cable within 600 mm (2 ft) of a ditch line. The installation shall normally be as near to the right-of-way line as practical while maintaining a uniform distance from the highway centerline.

Locate all crossings as normal to the highway alignment as practical. Avoid crossings in deep cuts, near footings of structures, at-grade intersections or ramp terminals, at cross drains and in wet rocky terrain.

Pedestals or service poles installed as part of a buried installation generally are placed 300 mm (1 ft) from the right-of-way line. Never locate pedestals within the highway maintenance operating area, including mowing operations.

Lines (i.e., cables) without encasement require a minimum bury depth of 750 mm (2.5 ft), except to clear an obstruction (e.g., a drainage facility). Then the depth may be reduced to 600 mm (2 ft). Encased lines buried less than 600 mm (2 ft) are acceptable provided the encasement does not protrude into roadway base course materials. Encasement and installation must conform to the applicable cooperator and/or utility company provisions.

Identify all buried cable locations by placing standard warning signs (i.e., markers) at the right-of-way lines for the crossings. Longitudinal installations require markers at appropriate intervals; however, for electric power cables, this interval must not exceed 150 m (500 ft). The markers must be offset as near the right-of-way line and practical.

12.6.9.2 ASCE 38-02 Certification

The American Society of Civil Engineers (ASCE) has developed a National Consensus Standard, ASCE C/I 38-02, "Standard Guidelines for the Collection and Depiction of Existing Subsurface Utility Data." This National Consensus Standard (NCS) is used to classify the quality of utility location information that is placed in design plans. It addresses the following types of issues:

- how utility information can be obtained,
- what technologies are available to obtain that information,
- how that information can be conveyed to the information users,
- who should be responsible for typical collection and depiction tasks,
- what factors determine which utility level attribute to assign to data, and
- what the relative costs and benefits of the various quality levels are.

12.7 RAILROADS AND OTHER ENTITIES

12.7.1 RAILROAD AGREEMENTS

The processing of railroad agreements and the preparation of plans for railroad encroachment projects usually are time consuming operations. The designer should initiate this process at an early stage to avoid delaying the development of the project.

Railroad agreements are three party documents between the cooperating highway agency, the affected railroad company and the Federal Lands Highway Division. The responsibilities and obligations of each party must be spelled out in detail in the jointly signed agreement. There is no rigid format for preparation of the agreement but items needed in every agreement are spelled out in [FAPG 23 CFR 646B](#).

In general, right-of-way is not acquired in fee from a railroad company. Instead, the highway operating agency acquires easements, access rights, temporary easements, encroachments, etc., for highway construction.

The cooperating highway agency or the affected railroad may prepare the actual agreement. However, it requires review and approval by all three parties. When it is agreeable to all parties, the construction may proceed on the basis of a right-of-entry permit with the actual details of formal agreement being resolved during the construction phase.

Each State usually has a procedure and guide to clear their projects through the appropriate railroad channels. Contact the cooperating highway agency for additional guidance. The review of the preliminary plans and the procedure for requesting the cooperating highway agency to obtain the formal agreement for the proposed work is similar to the procedure discussed in Chapter 9, [Section 9.4.7](#).

12.7.2 IRRIGATION AND DRAINAGE PIPES, DITCHES AND CANALS

Bury irrigation line and pipe siphon crossings from right-of-way line to right-of-way line or from edge-of-clear zone to edge-of-clear zone, whichever is greater.

When crossing a roadway, water canals and irrigation ditches can pass through culverts or bridges. Open channels or ditches should not be parallel to highways within the clear zone. It is preferable to locate these outside the right-of-way limits.

Maintain water flow to accommodate periods of mandatory operation. Provide temporary facilities as needed.

12.8 DOCUMENTS

The right-of-way plans are official documents used to acquire real estate and property rights. The plans are often references for legal instruments (e.g., deeds, other documents conveying land, interest in land to various parties). The right-of-way staff assembles data and prepares plans for the acquisition of right-of-way, including easements, permits or any other substantiating documentation necessary. The final plans must be correct from the engineering standpoint and meet FHWA legal requirements and those of the highway agency acquiring the right-of-way.

12.8.1 ESTABLISHING PROPOSED RIGHT-OF-WAY LIMITS

There is a basic conflict between the use of land for right-of-way and other uses. The right-of-way should provide for maintenance, control of access, utilities, future widening and control of adjacent drainage and vegetation for ensuring sight distance and aesthetics. The same land is often desirable for dwellings, farming, commercial or recreational purposes. Hence, a right-of-way is seldom ideal but is usually a compromise.

Establishing right-of-way widths can usually begin as soon as the earthwork design is substantially completed. The minimum right-of-way width is the horizontal distance from the centerline to the edge of clearing. It is always desirable to provide some additional area to accommodate minor changes in construction and to provide space for normal maintenance operations.

The clear zone recovery area should receive consideration when establishing new right-of-way limits. Good engineering judgment is essential in this area to determine when taking a prudent right-of-way equals the need for a portion of the theoretical recovery area.

Following the establishment of construction limits on the design plans, work can begin on establishing right-of-way limits. The right-of-way should provide standard minimum widths and the desirable distance from the clearing limit to the right-of-way line. The following is applicable:

- It is desirable to have a uniform right-of-way width through each ownership for ease in locating fences and describing right-of-way.
- It is desirable to keep changes of right-of-way width to a minimum. Consider keeping the minimum length of constant width along centerline to 60 m (200 ft). Change widths when the right-of-way width needs changes by more than 5 m (15 ft) over a length of 60 m (200 ft).
- Change right-of-way widths at property lines, if practical, to simplify legal description of right-of-way.
- Change right-of-way widths at even stations or at curve points. To make a symmetrical fence line, it may be necessary to change widths at 20 m (50 or 100 ft) points or other odd stationing.

- Changes in width should taper from point-to-point except at property lines. Use a minimum of 15 m (50 ft), preferably 30 m (100 ft), along the centerline to avoid abrupt angles in the right-of-way line. This makes it easier to build and maintain right-of-way fences and to mow and care for right-of-way plantings.
- Provide stopping sight distances at intersecting road approaches and provide right-of-way to maintain these sight distances. This is mandatory at all grade crossings of railroads

Sometimes there is a need to have drainage control structures, channel changes, riprap, stilling pools, etc., constructed above or below the roadway. It is desirable to have these structures within the right-of-way so there is no question of the right to maintain or rebuild them. The right-of-way should extend at least 3 m (10 ft) beyond these facilities. It is preferable to obtain right-of-way to cover these installations but in some cases a construction easement may suffice.

States, counties and other cooperating agencies generally have standard widths for highway right-of-way. Contact the highway-operating agency to determine the standard minimum widths and any other applicable criteria.

12.8.2 RIGHT-OF-WAY PLANS

Refer to the *Right-of-Way Project Development Guide*, [Section 5.3](#) Right-of-Way Plans, and Section 23 [CFR 710.203\(b\)\(1\)\(ii\)](#) and CFLHD [Compilation Guide](#) and [Right-of-Way Document Preparation Guidelines](#).

A State or cooperating agency acquires almost all right-of-way for Federal road projects. As such, the format for right-of-way plans varies between the different acquisition agencies.

In some instances, the cooperators prefer to prepare their own right-of-way plans and only require a completed detail map with slope limits and all known property ties. In other areas, Federal Lands Highway Division offices are responsible for the acquisition of right-of-way. The following discussion provides the guidelines and recommendations that cover the preparation of plans.

Before developing the right-of-way plans, obtain title reports, copies of deeds and any other documents about existing right-of-way. In some cases, the acquisition agency will perform this function.

Examine the documents for easements or other encumbrances to reveal the existence and location of waterlines, conduits, drainage or irrigation lines or other features affecting construction.

The relocation plan prepared during the conceptual stage is available to the right-of-way designer for information and implementation when it is applicable to the project. If the plan is outdated or significant changes have occurred within the project corridor, it may be necessary to prepare a supplemental relocation study. The study should show how occupancy needs are to be correlated with specific available and suitable housing. Typically, the right-of-way designer can request this information from the State or cooperator by working through the appropriate FHWA Federal-aid division office.

Resolving the right-of-way plan format and obtaining current title reports and other documentation opens the way to preparation of the actual right-of-way plans. Completed right-of-way plans generally consist of four elements:

- Title Sheet,
- Tabulation of Properties,
- Vicinity Map and/or Ownership Map,
- Right-of-Way Plan Sheets, and
- Summary of Records (optional).

The basic information required on all right-of-way plans is found in [FAPG NS 23 CFR 630.B](#). The following supplements the instructions in the [FAPG](#).

A standard construction type of title sheet, modified to reflect right-of-way criteria, may be used provided it is acceptable to the acquisition agency. All the information that normally shows on a construction title sheet can appear on the right-of-way Title Sheet.

Most projects require a vicinity map or total ownership parcel map. The map scale used should be suitable to show the entire project on one plan sheet. It should also show general information to depict the project in relation to surrounding communities, public and private road systems and other local features.

Many States use the vicinity map to show ownerships and parcel numbers. This is often shown in tabular form with column headings as follows:

- parcel numbers,
- recorded owner,
- total assessed ownership,
- right-of-way required,
- existing right-of-way,
- remainder (left and right), and
- easements (permanent and temporary).

Minor variations of this tabular format will occur depending on the acquisition agency's practices. It is usually permissible to place the parcel tabulation on a separate plan sheet if the vicinity map becomes too detailed. Some agencies show the parcel tabulation on the individual plan sheets rather than the vicinity map. It is difficult to go wrong if the vicinity map follows the format of the applicable agency manual. This is essentially true if the project is on a county road system or a State system.

In addition to the requirements of the vicinity map and other right-of-way documents, the following data is shown on the right-of-way plan sheets.

1. **Alignment.** Show the base line that legally describes the right-of-way as a continuous solid line for the full length of the project including alignment data. Existing or additional centerlines show as dashed lines with or without alignment data as appropriate. Tie the existing stationing to the new centerline by station and/or bearing equations.

2. **Control Features.** In addition to the culture tie requirements of [Chapter 5](#), identify on the plans all Government subdivisions, platted subdivisions, donation land claims, National Park or Forest boundaries, Indian reservations or farm units.

Show a minimum of one tie from the new highway centerline to an existing and recorded monument or Government subdivision, particularly the monument from which the title report originates. Compute the tie to a centerline intersection along the section subdivision line with a station, bearing and distance to the monument.

Frequently, it is necessary to resolve the issue of appropriate evidence of property lines for purposes of right-of-way activities. The property line could be a fence, ditch, partial section boundary (1/16) or the line described in the property deed. Locate, reference and show on the plans all topographic features (e.g., fences, ditches, roads) relating to property usage and boundaries. These topographic features are shown on the plans as they actually exist in the field. The property line is determined and designated from this data for right-of-way requirements.

3. **Right-of-Way Details.** Right-of-way lines are continuous. These lines cross city streets, county roads, rivers, railroads, etc., and must match adjoining projects.

Show enough detail to describe the right-of-way for its entire length from a centerline or from a metes and bounds description. Tie any existing right-of-way retained for the new project and describe it from the new centerline or by metes and bounds description. Ties to a previous centerline are not acceptable.

Right-of-way may be established by deed, dedication or statute.

Right-of-way by usage or prescription may or not be legally supportable in a court of law, depending on the evidence and other factors. When a recorded (deeded) right-of-way does not exist, tie any physical evidence of the existing roadway and the maintained right-of-way, and the centerline of the existing road, to the new road alignment and/or the new right-of-way.

Right-of-way widths and centerline stationing must be shown at the beginning and ending of each plan sheet and at all points of change in right-of-way width. Any easements required outside the right-of-way must show permit descriptions. These easements will accommodate intersecting roads and streets, land service, access and temporary roads, drainage areas, material storage areas, slope widening, utilities, railroads and other special uses.

Show centerline stationing at the beginning and end of each easement. Mark each easement as temporary (T) or permanent (P). If the easement is irregular in shape, include distance and bearings for writing a description.

Temporary construction easements give permission to use the land for a brief time (e.g., during construction). Determine a period of effective use or termination date of the temporary easement. Use permanent easements where parties other than the owner need to maintain a right to the land (e.g., a pipeline, an access road).

Assign a parcel number to each recorded ownership for properties involved on each project. This includes all units of Government. As a rule, number parcels starting with the first tract crossed by the project and then continue in sequence through to the end of the project.

4. **Access Control.** The highway-operating agency regulates control of access between a highway facility and all other property. When acquiring access rights, access control lines and all approved points of entry or exit from the traffic lanes must show on the plans. An access control line may or may not be coincident with the right-of-way line. Several types of access control, ranging from minimal to full control, may exist within the project limits.

When the access control agency permits individual road approach entries from adjacent properties, identify them on the plans by symbol or type including stationing, width and grade.

12.8.3 COORDINATION OF FORMAT WITH ACQUISITION AGENCY

Every highway agency responsible for acquiring right-of-way has a format and style that suits their method of operation. The right-of-way staff should meet with the acquisition agency early in the design process to determine the format and style acceptable to all parties.

The following general topics also merit discussion and resolution during the preparation of the right-of-way plans:

- What are the document formatting and recordation requirements?
- How should property lines and ownerships be shown on the plan sheets?
- Can construction plans and right-of-way plans be combined? For separate right-of-way plans, is it necessary to have profile grade plan sheets? Are Federal-aid Plan and Profile Sheets adequate or are separate sheets necessary?
- What is the policy for need, type, placement and installation responsibility for right-of-way fencing?
- When the agency acquiring the right-of-way is also responsible for utility relocation agreements, what additional requirements are necessary to complete the plans?
- What is the process for modifying right-of-way plans after the acquisition agency has given final approval to the plans?

The cooperating agency may request FHWA to furnish descriptions of the proposed right-of-way. Provide a metes and bounds description, if requested.

12.8.4 RIGHT-OF-WAY PLANS FOR NATIONAL FOREST LANDS

When the acquisition agency and the Forest Service request that FHWA prepare right-of-way plans over National Forest Lands, the above plan preparation instructions apply. When the cooperator is a State highway agency, the right-of-way plans should comply with the Memorandum of Understanding (MOU) between the State and the Forest Service. When the acquisition agency is a county or other local Government entity, the State highway agency may assist the county in obtaining the appropriate easement deeds for the highway construction. The process will be expedited and function quite smoothly if the designer coordinates the procedures through the appropriate FHWA Federal-aid division right-of-way office.

Monument the final right-of-way through National Forest Land, if requested, in conformance with the Memorandum of Understanding between the State and Forest Service.

12.8.5 RIGHT-OF-WAY RECORDS

Reserved

12.8.6 RIGHT-OF-WAY ANNUAL STATISTICAL REPORTS

Reserved

12.9 DIVISION SUPPLEMENTS

12.9.1 EFLHD SUPPLEMENTS

Refer to the EFLH Division Supplements

12.9.2 CFLHD SUPPLEMENTS

Refer to the CFLH Division Supplements

12.9.3 WFLHD SUPPLEMENTS

Refer to the WFLH Division Supplements